

Expedited Procedure
Application No.: 09/704,936
Art Unit 2664

REMARKS

Claims 1-56 are pending in the present application. With the Office Action of August 9, 2005, the Examiner has rejected claims 1-56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent No. 6,654,344 B1 to Toporek et al. ("Toporek") in view of U.S. patent No. 6,711,379 B1 to Owa et al. ("Owa"). The applicants traverse such rejections and respectfully request reconsideration. This amendment is timely filed within two-month period of the mailing of the final Office Action (the final Office Action being mailed on August 9, 2005, October 9 and 10, 2005 being Sunday and a public holiday, respectively).

Claims 1, 17, 29, 38 and 49 and their dependent claims are allowable over the cited art

Each of claims 1, 17, 29, 38 and 49, as amended, recites a method or system of transmitting data through a communication link using a plurality of communication connections, the method or system including, among other things, establishing a plurality of worker objects where each of the plurality of worker objects is capable of forming and delivering a message to each of the plurality of communication connections in a manner so that each communication connection uses no more than a predetermined portion of a bandwidth of the communication link. Because each worker object has its own identity, an associated program, a set of parameters, etc., using a different worker object for each of the plurality of communication connection allows each particular communication connection to be managed using a set of parameters specifically controlling the operation of that particular communication connection, regardless of the status of and without affecting the operation of the other communication connections.

For example, each of the plurality of worker objects includes a parameter specifying a predetermined bandwidth of an associated communication connection. This ascertains that the plurality of communication connections do not simultaneously attempt to deliver messages through the communication link, which may result in overloading of the buffers, stacks, queues, etc., associated with the communication link, and corruption of the transmitted data. In other words, the worker objects recited in these claims provide a data management mechanism to coordinate the operation of the plurality of communication connections. As a result, the method or system recited in the these claims enables efficient transmission of data through a communication link having a plurality of communication connections and improves the throughput of the communication link by interposing an

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orchestrating mechanism between data sources and an underlying layer associated with the communication connections.

Neither of Toporek and Owa discloses any mechanism for establishing a worker object for each one of a plurality of communication connections and delivering messages formed within each worker object to an underlying layer of the plurality of communication connections using a parameter of that work object in a manner so that each communication connection uses no more than a predetermined portion of a bandwidth of a communication link, as recited by each of the claims 1, 17, 29, 38 and 49.

While Toporek discloses a method of controlling flow of information over a satellite communication link using a plurality of communication connections, as correctly mentioned by the Examiner, Toporek does not disclose or suggest any method of establishing a plurality of worker objects where each of the plurality of worker objects is capable of forming and delivering a message to one of the plurality of communication connections. On the other hand, Toporek discloses a rate control module which is used to determine whether information should be passed over to one of the plurality of communication connections or queued for later delivery. As a matter of fact, the rate control module disclosed in Toporek determines the bandwidth to be used by any given communication connection based on the usage of all of the plurality of communication connection, thus, it does not provide that each of the plurality of communication connections uses no more than a predetermined portion of a bandwidth of the communication link, as recited by each of the claims 1, 17, 29, 38 and 49. Moreover, because Toporek uses only a single rate control module to manage messages communicated to the plurality of communication connections wherein the rate control module determines delivery of messages to each of the plurality of communication connections based on the availability of all of the communication connections, there is no motivation or suggestion to modify the rate control module in a manner so as to provide a plurality of worker objects wherein each of the plurality of worker objects manages messages delivered to only one of the plurality of communication connections.

On the other hand, Owa discloses a digital broadcasting system for broadcasting multimedia data consisting of picture, sound and text to a terminal device. While the broadcasting system disclosed in Owa includes a plurality of encoding units, Owa does not disclose a plurality of communication connections working with a plurality of worker objects. In fact, the Owa broadcasting system multiplexes the outputs of the encoding units into a

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single multiplexed stream, where the multiplexed stream is broadcast over a single communication connection to the satellite. Moreover, because Owa discloses encoding units implemented at the hardware level, and because the number of communication connections can vary over time, Owa cannot provide encoding units for each one of the communication connections. Thus, even if Toporek provided any motivation for providing a plurality of worker objects, Owa does not teach any such methodology.

It is clear that the prior art must teach or suggest each of the claim elements and must additionally provide a suggestion of, or an incentive for, the claimed combination of elements to establish a prima facie case of obviousness. See *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985); *In re Royka*, 490 F.2d 981 (CCPA 1974) and M.P.E.P. § 2143. Because neither of Toporek and Owa provides any motivation or suggestion to provide a system or method for transmitting data through a communication link using a plurality of communication connections, including a plurality of worker objects where each of the plurality of worker objects is capable of forming and delivering a message to each of the plurality of communication connections in a manner so that each communication connection uses no more than a predetermined portion of a bandwidth of the communication link, it follows that claims 1, 17, 29, 38 and 49 and their dependent claims are not rendered obvious by Toporek, Owa or any combination thereof.

Conclusion

In view of the foregoing, it is respectfully submitted that the above application is in condition for allowance. If there is any matter that the examiner would like to discuss, he is invited to contact the undersigned representative at the telephone number set forth below.

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Respectfully submitted,

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